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BUILDING IN THE ELECTRICAL AGE . .





Building in the Electrical Age



C I R C U L A R

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WESTINGHOUSE ELECTRIC
& MANUFACTURING CO.

East Pittsburgh, Pennsylvania

To the towering
downtown skyscraper
or the cozy cottage, to
the roaring factory
building or the quiet
country home . . . to
modern structures of
any size or type . . .
electrification brings its
welcome contributions
of convenience and
comfort.



In the Fisher Building, Detroit the major share of the electrical equipment was produced by Westinghouse.

The modern trend in electrification of buildings

The building of today must provide something more than shelter. It is a place where light lingers after the sun has gone; where summer warmth finds lodgment in the midst of winter snow. Through wires within its walls power comes for a wide variety of labor-saving devices and conveniences. Electric developments which make possible many of the most important daily operations of home or business life are as much a part of the building as its doors, windows, floors, and roof. In many a modern building electricity is water-boy, fireman, lamp-lighter, kitchen-helper, and general assistant.

The general trend in building design and equipment today is toward a larger use of electricity. Electric cooking and electric refrigeration are making steady gains. These innovations and others are making it necessary to provide additional

facilities for the entrance of electric power and for its control in buildings designed for use as dwellings. New electric devices for saving time in offices and industrial buildings are having a similar effect on the design and construction of downtown towers and skyscrapers. Architects and builders now make their plans with an eye to future development so that provision can be made for buildings to keep pace with the growth of electrification.

The illustrations presented in this book cover every type of building—some large, some small, some strictly utilitarian in purpose and design, others devoted to art or entertainment. In connection with them, moreover, we have illustrated some of the more important electrical equipment which helps to make buildings better places in which to live or to work.



In these homes Westinghouse equipment adds comfort and convenience

REPRESENTATIVE OFFICE BUILDINGS USING WESTINGHOUSE EQUIPMENT



Chicago Opera House Building



Koppers Building, Pittsburgh



Night View of the Eaton Tower, Detroit



Missouri Pacific Building, St. Louis

In the modern office building electricity speeds business

The swift-moving business world of today demands equipment of every type adjusted to the modern tempo. In every towering cathedral of commerce erected in recent years is liberal evidence of the part which electrification plays in helping to set the pace of business and industry.

In large or small office buildings electricity

helps owners to meet the exacting requirements of tenants alert to the best and newest developments. It moves workers from the street to the office swiftly and comfortably. It gives them the right kind of light for any kind of work in any part of the structure. It delivers clean, fresh air to the smallest room no matter how far it may be removed from the outside walls.

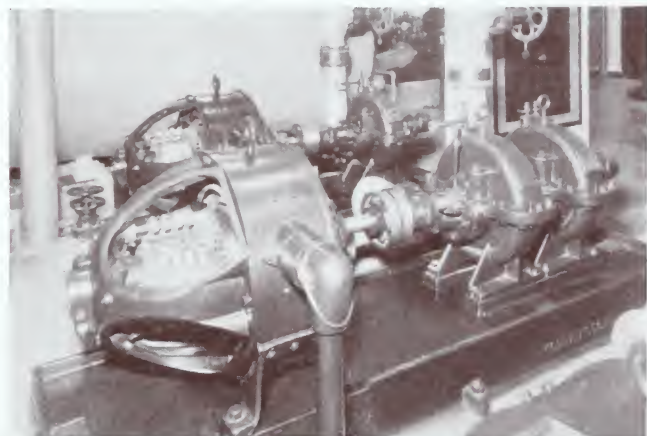
Few engineering achievements can claim equality with elevators in making the modern skyscraper possible. And the most sweeping improvement in elevator design within recent years has been "automatic inductor control," a Westinghouse development. Westinghouse automatic electric elevators give business the kind of service



Passenger elevators in the Fisher Building, Detroit



Sollux illumination in corridor of the Fisher Building, Detroit



Motors driving pumps in the Salmon Tower, New York



Motors driving ventilating equipment in the Builders Building, Chicago

REPRESENTATIVE OFFICE BUILDINGS USING WESTINGHOUSE EQUIPMENT



Grant Building, Pittsburgh



New York Central Building, New York



Hunter-Dulin Building, San Francisco

that matches modern business speed and directness. These elevators travel swiftly and smoothly from floor to floor as traffic needs require. They glide to a smooth stop exactly level with the floor automatically. Even careless operators cannot waste the time and try the patience of tenants or visitors by jiggling, jockeying, and the annoying caution-phrase of an older day, "Step up, please."

Building better elevators was principally a matter of building the right kind of motors and control. Westinghouse improvements in this class of apparatus have proved themselves valuable in other types of equipment for buildings. Westinghouse electric motors for pumps and ventilating systems have the smooth-running reliability for

which they are famous because Westinghouse engineers have developed balanced design, sealed sleeve bearings, unit frame construction, and radio testing for hidden defects. They simplify the maintenance problem in management of buildings and keep costs down to meet modern competition.

The improvements made by Westinghouse engineers in office lighting offer equally important advantages along another line. Perhaps nothing is of greater value in helping to rent office space than the assurance of clear light without tiresome glare no matter what may be the outside light condition.

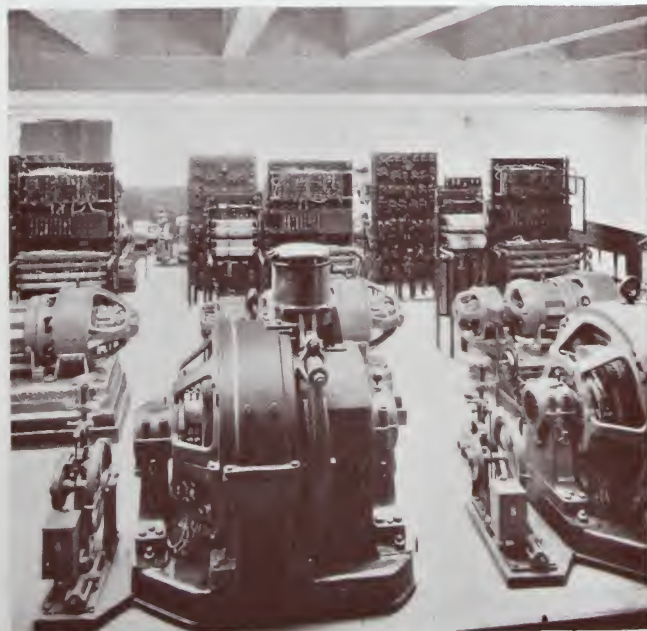
Similarly Westinghouse makes the panelboards, switchboards, transformers, circuit-breakers and other equipment for the complete installation.



Panelboard in the San Diego Trust & Savings Building, San Diego, Cal.



Front view of switchboard in Title Insurance & Trust Building, Los Angeles



Pent-house view of gearless traction elevator equipment in Title Insurance & Trust Building, Los Angeles



Motors driving pumps in Hunter-Dulin Building, San Francisco

REPRESENTATIVE HOTELS USING WESTINGHOUSE EQUIPMENT



The Mark Hopkins Hotel, San Francisco



The Savoy-Plaza, New York



The Hotel Statler, Buffalo



The Sherry-Netherlands, New York

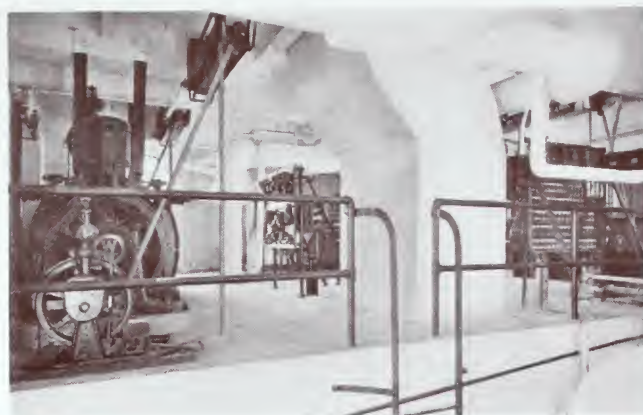
Electricity is a part of the modern hotel's atmosphere

Lights, gay and bright for pleasure-seekers or soft and restful for those who seek repose . . . elevators with smooth swiftness in every movement and gentle precision in every start or stop . . . water for a thousand bracing showers or soothing baths . . . clean fresh air for one, two or three thousand rooms.

Paint yourself a picture of the lavish luxury which distinguishes a modern hotel and you find a touch of electrification in nearly every stroke. Go behind the scenes in a long list of these hotels which have made American hospitality famous the world over and you will find Westinghouse electrical equipment at work from basement to pent-house.

The exacting requirements which make Westinghouse elevators desirable for the office building make them even more valuable in the hotel where the emphasis on luxurious perfection of performance reaches its peak. Whether operating with

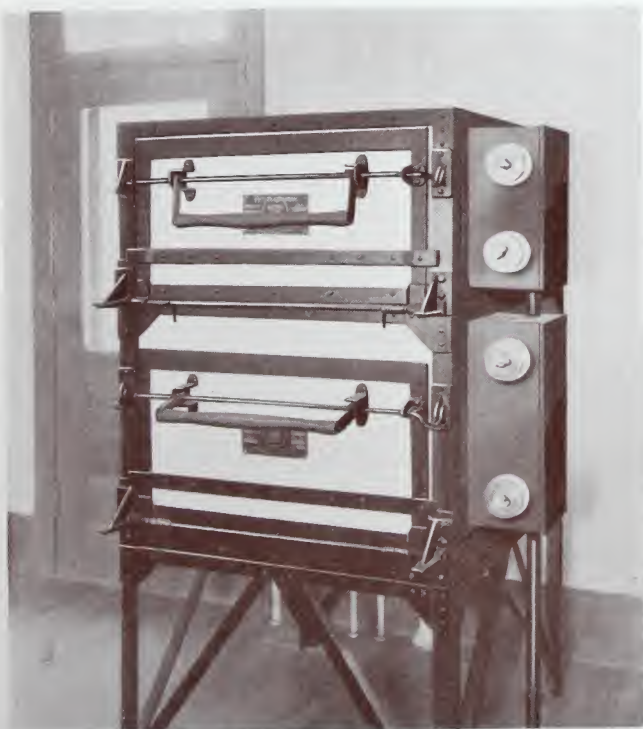
average loads or packed to full capacity, Westinghouse elevators maintain their rated speed and



Gearless traction elevator equipment in the Sir Francis Drake Hotel, San Francisco



Motors driving ventilating equipment in the Dorset Hotel, New York



Electric baking oven, Hotel Statler, Buffalo



Sollux illumination in barber shop, Hotel Statler, Buffalo

REPRESENTATIVE HOTELS AND CLUBS USING WESTINGHOUSE EQUIPMENT



The Jonathan Club, Los Angeles



The Ritz Tower, New York



The Level Club, New York

make their stops at exact floor levels. They can be provided with master control for accurate scheduling of trips if desired.

Westinghouse motors for pumps, ventilating systems and laundry machinery, or for compressors which operate pneumatic tube systems offer the advantages of smooth, economical operation. Westinghouse lighting lends itself to all the varied requirements of hotel service, within the building or outside. Westinghouse panelboards, circuit-breakers, transformers, switchboards, and kindred equipment embody the same engineering skill and adaptability as other classes of apparatus.

In addition to these types of equipment, Westinghouse kitchen equipment contributes its share to the distinction for which every modern hotel management is constantly striving. Westinghouse commercial cooking equipment is clean in operation and flexible in meeting a wide range of requirements. Heat is easily and accurately con-

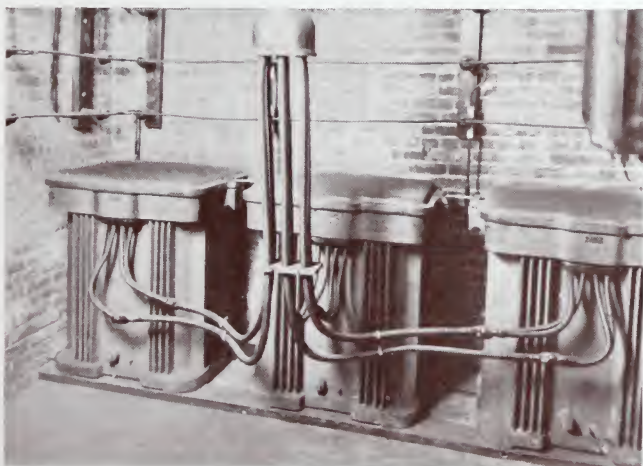
trolled. Electric cooking is one of the outstanding developments in modern hotel electrification.

ELECTRIFICATION GIVES LUXURY TO THE MODERN CLUB RESIDENCE

Clubs and various classes of buildings in which the design is dominated by the air of friendliness



Switchboard in the Biltmore Hotel, Santa Barbara, Cal.



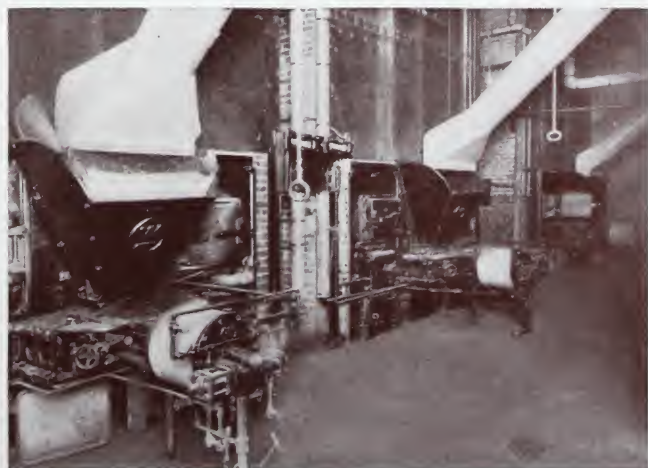
Lighting transformers, Lafayette Hotel, Buffalo

to which the edifice is devoted often present special problems. As a rule they must satisfy groups of individuals accustomed to judge their surroundings with exacting discrimination. This emphasizes the importance of selecting equipment with care.

Much of the elaborate electrical equipment required for the modern hotel is also essential to the modern clubhouse. Whether it be for the club in town or country Westinghouse electrification equipment supplies comfort and convenience to please the most fastidious.



Rotary converters with switchboard, Hotel Statler, Buffalo



Single-retort underfeed stokers in the Schroeder Hotel, Milwaukee

REPRESENTATIVE THEATERS USING WESTINGHOUSE EQUIPMENT



The Capitol Theater, New York



The Dufwin Theater, Oakland, Cal.



The Oakland Theater, Oakland, Cal.

On stage and screen Westinghouse apparatus plays leading roles

Into the splendor of a modern theater is woven the thread of electrification. Electric equipment is a part of both stage and screen presentations. In an equally important degree it contributes to the beauty of theater interiors or exteriors and to the comfort of patrons.

In the fields of ventilation, elevator equipment, interior or ornamental lighting, power distribution and power control, the theater has much the same requirements as the office building or hotel. Those electrical requirements peculiar to theaters are in the fields of stage lighting or motion picture

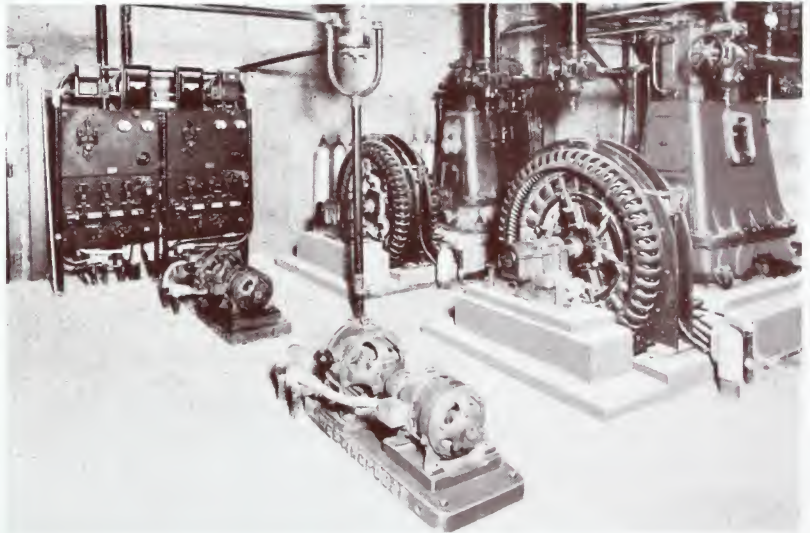
projection. In both these fields Westinghouse equipment occupies a prominent place

The Multi-Pre-Set switchboard, developed by Westinghouse engineers, enables the stage manager to have lighting effects for a whole act set up in advance. The lighting changes are then carried out with a smooth certainty that would be impossible by other means.

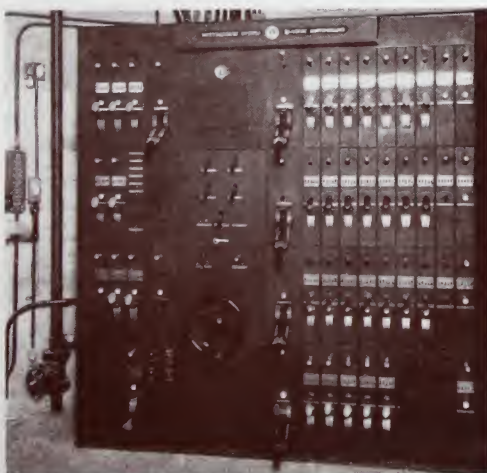
Motion picture projection gains uniform, clear quality through Westinghouse motor-generator sets for the supply of power.



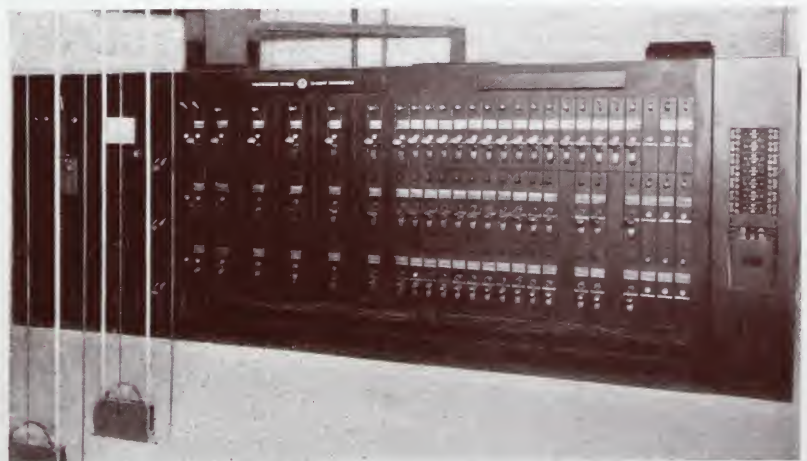
Motor-generator sets for motion picture projection in the Figueroa Theater, Los Angeles



Synchronous motors driving compressors for air-conditioning system in Loew's Theater, Louisville, Ky.



Five-scene Multi-Pre-Set switchboard in the Dufwin Theater, Oakland, Cal.



Multi-Pre-Set theater switchboard in the Oakland Theater, Oakland, Cal.

REPRESENTATIVE PUBLIC BUILDINGS USING WESTINGHOUSE EQUIPMENT



*Pasadena City Hall,
Pasadena, Cal.*



*County Court House,
New York*



Soldier's Field, Chicago

In public buildings electrical equipment must merit public trust

Structures erected to serve the public are often brought under a closer and more critical scrutiny than buildings of any other type. It is of paramount importance that their electrical equipment be selected with exacting care to fulfill its obligation without a flaw.

Civic officials, boards of trustees, and administrators of public funds have found that a good way to be sure of carrying out their responsibilities insofar as the electrical equipment for

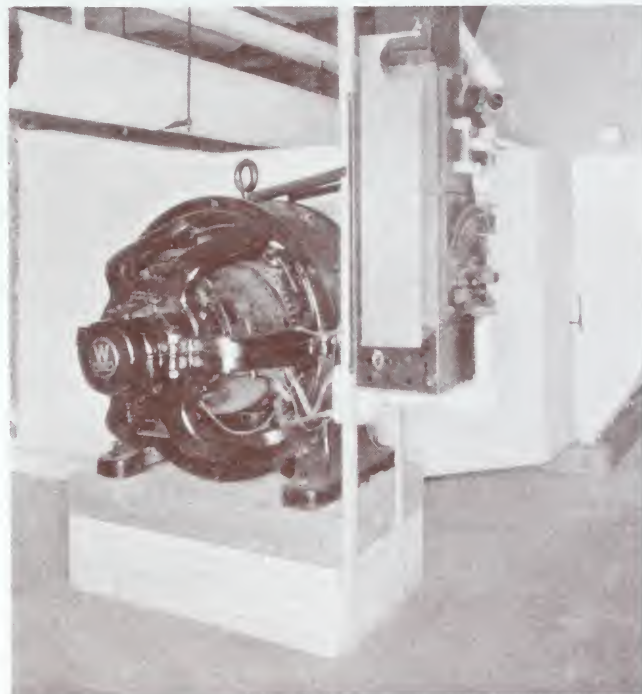
public buildings is concerned is to place the bulk of responsibility on Westinghouse.



Motors driving pump in the Museum of Art, Brooklyn



Typical view of modern pent-house showing elevator equipment



Motors driving ventilating equipment in the Museum of Art, Brooklyn

The wide experience of Westinghouse specialists in planning and carrying out projects of the largest scope is an assurance of competent service no matter how unusual may be the problem presented.

In the field of lighting equipment Westinghouse service covers a wide range. Sollux, Sollite, or Sollaire units are available for correct interior lighting of offices, corridors, or assembly halls in any type of public building. Westinghouse designs floodlight projectors in types and sizes for any desired purpose or effect including color effects.

In other fields, such as electrical equipment for ventilating systems, for elevator installations, or for special electrical uses in libraries, museums, auditoriums, stadiums, railroad stations, or other structures Westinghouse service is complete.

REPRESENTATIVE APARTMENTS USING WESTINGHOUSE EQUIPMENT



*The Park Royal
Apartments,
New York*



Oliver Cromwell Apartments, New York



The Cathedral Apartments, San Francisco

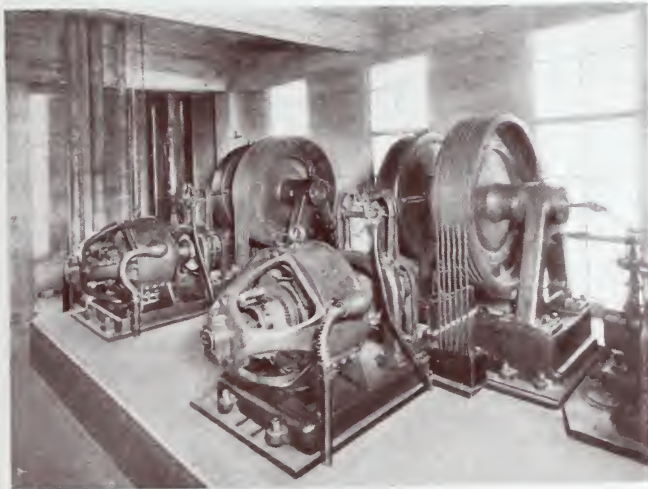


The Wardell Apartments, Detroit

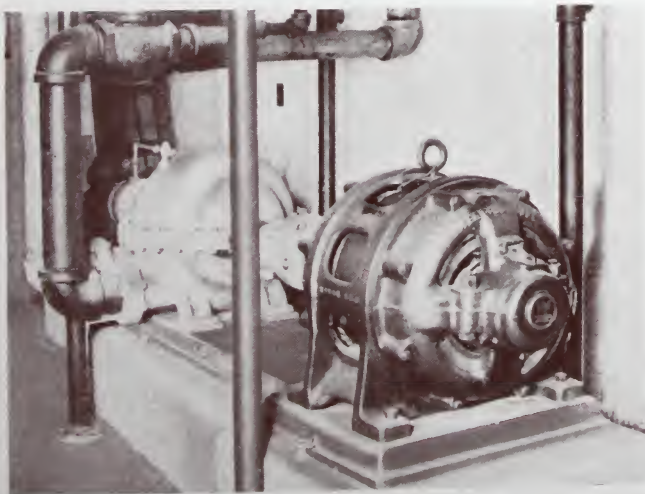
Electrification is one measure of an apartment's desirability

Keeping apartment space rented is one of the jobs for which electrical equipment should gain its due share of recognition. One of the signs by which prospective tenants gauge the desirability of living quarters these days is the extent to which electrification is carried . . . and the quality of the electrical equipment.

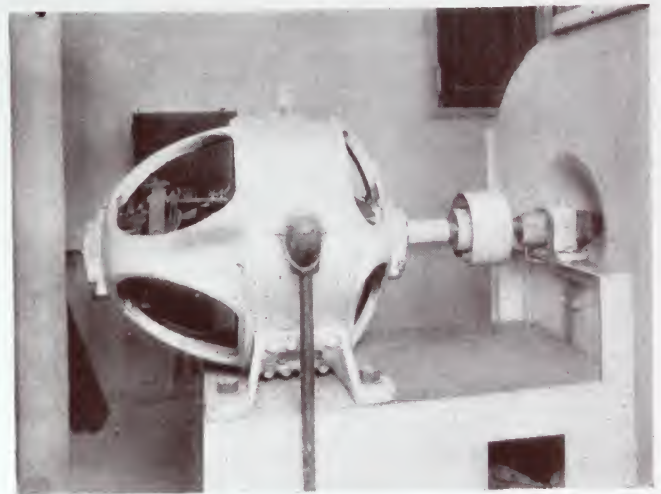
This applies particularly, of course, to the equipment which comes under a tenant's direct observation. Well-lighted corridors make a favorable impression . . . and Sollux Luminaires,



Geared elevator equipment in the Cathedral Apartments, San Francisco



Motor driving pumps in the Cathedral Apartments, San Francisco



Motor driving ventilating equipment in The Drake, New York

developed by Westinghouse engineers, are responsible for the absence of disagreeable glare or obscuring shadows in halls of many of the finest apartment houses being built today. Westinghouse exhaust fans, or ventilating systems operated by Westinghouse motors, help to keep fresh air in every room, and to remove kitchen odors. Westinghouse electric ranges eliminate the soot and fumes found almost unavoidable with other means of cooking. Westinghouse elevators make top floors as easily and pleasantly accessible as the first. If these classes of equipment are served by Westinghouse panelboards, switchboards, transformers, and other apparatus, the uniform reliability of the whole electrification is assured.

Westinghouse representatives make it a special point to co-operate with architects, contractors, and building owners or managers in planning the electrical installation according to the newest developments in building practice. Through a staff of specialists the entire resources of the Westinghouse organization are made available for any building enterprise, large or small. Any problem involving electrification equipment for modern buildings is within the field of their service.

REPRESENTATIVE STORES USING WESTINGHOUSE EQUIPMENT



Joseph Horne Company's Department Store, Pittsburgh



Bullock's Department Store, Los Angeles



Saks' Department Store, New York

When electrification joins the retail selling staff

Incidental impressions carry much weight with the shopping public. Making the incidental impressions uniformly favorable is one of the tasks which modern merchandisers assign in part to Westinghouse electric equipment.

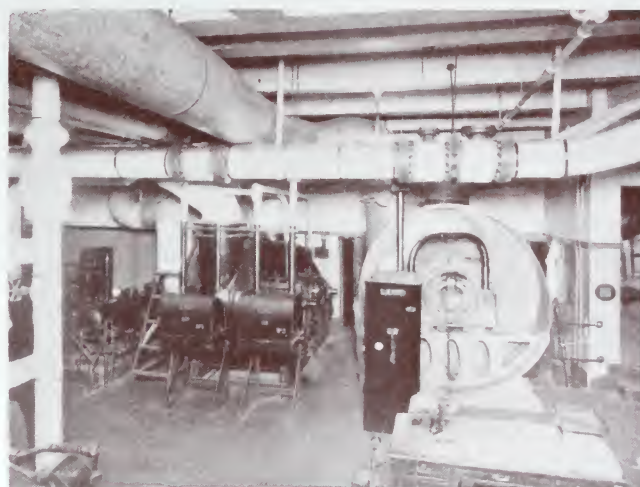
If an elevator operator must repeatedly warn "Step up, please," the customer may very easily be put into a mood not most conducive to liberal purchasing. In a store the unfailing smoothness of Westinghouse elevators is more than a mere



Power and light distribution switchboard in Bullock's Department Store, Los Angeles



Gearless traction elevator equipment in Bullock's Department Store, Los Angeles



Typical installation of motor driving Lamson Tube Carrier System

improvement in floor-to-floor transportation. It is a distinct selling asset.

In a similar manner the clear soft glow of Sollux Luminaires contributes toward the effect of pleasant luxury which encourages the buying mood.

Westinghouse motors serve the requirements of ventilation, of compressors for pneumatic tubes, and of flashing electric signs. Along with them go the other types of electric equipment which make up a complete electrification by Westinghouse.

The list of stores which have strengthened their appeal to a discriminating public by installing Westinghouse equipment includes many nationally famous names. Along with them will be found listed a host of establishments which, though not so widely known, have been equally careful in selecting the equipment which helps them to serve their customers. Whether plans are for a merchandising structure covering a whole city block on a busy downtown street or for the neighborhood store, the services of Westinghouse specialists are available to help in the planning of electrification.

REPRESENTATIVE HOSPITALS USING WESTINGHOUSE EQUIPMENT



*Beth Israel Hospital,
New York*



*St. Joseph's Hospital,
San Francisco*



*University of Michigan
Hospital,
Ann Arbor, Mich.*

Electrification is an ally of science in the hospital's battle of health

Buildings devoted to the prevention and alleviation of human suffering deserve the best that modern science can offer in the way of equipment. Electric apparatus plays a large and growing part in the work of hospitals today. Much of it is so specifically a part of the original installation as to be considered a part of the actual building . . . and even such equipment as is of a more specialized character must be served by panelboards, switchboards, transformers, and other general apparatus.

Westinghouse lighting systems are found in many of the finest hospitals. Physicians and nurses are quick to recognize the advantages of Sollux units with their restful freedom from glare. The fact that Sollux units are easy to keep clean is also appreciated in the busy hospital.

The quiet-running reliability of Westinghouse motors with balanced design, sealed-sleeve bearings, and unit-frame construction is also peculiarly fitted for use in the hospital ventilating system, and for elevators, pumps, fans, or laundry equipment.

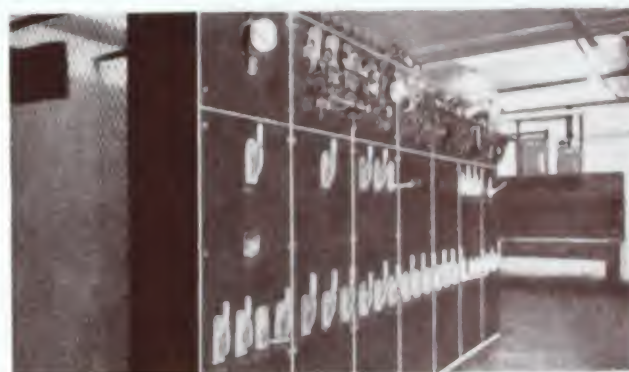
Westinghouse cooking equipment has decided advantages for hospital service. The heat is easily controlled, is fumeless, smokeless, and clean. There are types and sizes of Westinghouse ranges or commercial cooking units to meet a wide variety of hospital requirements.



Pent-house showing elevator equipment in modern hospital



Sollux lighting in Mercy Hospital, Watertown, N. Y.



Main power and light switchboard in Wilshire Medical Building, Los Angeles



Lighting in J. N. Adam Memorial Hospital, Perrysburg, N. Y.

REPRESENTATIVE EDUCATIONAL BUILDINGS USING WESTINGHOUSE EQUIPMENT



*Michigan Union,
University of Michigan,
Ann Arbor*



Somerset Vocational School, Buffalo



St. Mary's College, Oakland, Cal.

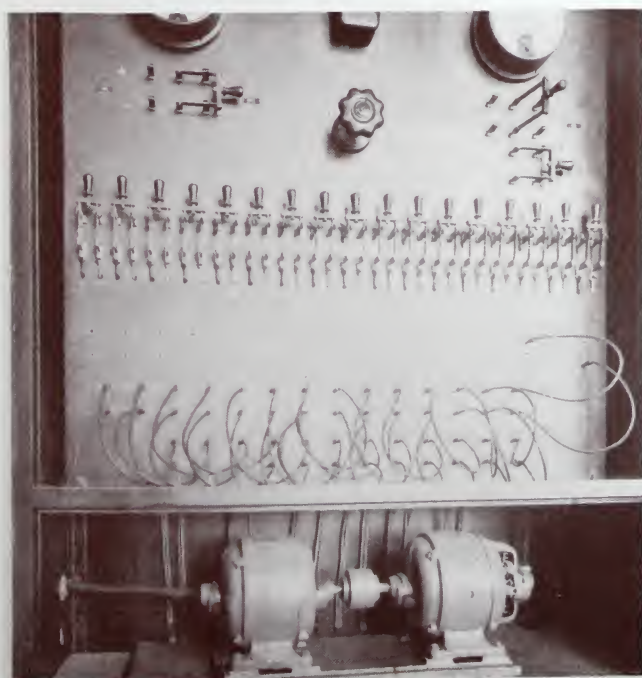
Electrification is one of modern education's chief assistants

The "lamp of learning" nowadays is a MAZDA bulb . . . and the clean fresh air that promotes clear thinking in many a modern classroom is delivered by Westinghouse motors driving fans in the basement.

The range of electrical equipment used in buildings designed for educational purposes includes laboratory apparatus, kitchen appliances, lighting installations, ventilating motors, pump motors, elevators, and all the control devices and distribution equipment that accompanies a modern electrification.

Westinghouse equipment is equally at home in the humblest grammar school or the most advanced university. In either case the board which assumes responsibility for the construction receives the full benefit of engineering and manufacturing skill found in an organization that has devoted nearly 45 years to work of this type.

The special requirements of schoolroom lighting have been the subject of careful study on the part of the Westinghouse Illumination Bureau and its staff of lighting specialists.



Test board in science laboratory, St. Mary's College, Oakland, California



Typical installation of electric range and baking oven in college kitchen



Single-retort underfeed stokers in St. Paul's School, Concord, New Hampshire



Main switchboard in power house of St. Mary's College, Oakland, Cal.

REPRESENTATIVE CHURCHES USING WESTINGHOUSE EQUIPMENT



St. John's Church, New York



St. Bartholomew's Church, New York

Church buildings use a wide range of electrical equipment

The fact that equipment installed in churches may not be used every day of the week makes it all the more important to be sure of perfect operation when needed.

The quietness of Westinghouse motors for ventilating fans, or for pumping large pipe organs, is an asset in church installations. The sealed-sleeve bearings are an assurance of effective performance no matter whether the motor operates continuously or with long periods of idleness intervening.

Westinghouse lighting installations lend themselves admirably to the architectural style of any church interior. Westinghouse lighting specialists are always glad to work with architects in planning the type of lighting which will bring out the full beauty of the design.

Many applications of electrical equipment in

churches are of a special character. This is especially true of lighting, in that it must harmonize with special interior decorative schemes. This diversity places a premium on the services of the Westinghouse staff of specialists whose knowledge and experience are available in simplifying problems of electrification.

In church kitchens Westinghouse electric cooking equipment meets requirements with modern convenience, cleanliness, and safety.

Trustees and building committees charged with the responsibility of handling church funds find it advantageous to centralize manufacturing responsibility for their own protection. From this point of view the ability of the Westinghouse organization to supply all the equipment for a complete electrification is found particularly desirable.



First Presbyterian Church, Phoenix, Ariz.

REPRESENTATIVE PUBLISHING PLANTS USING WESTINGHOUSE EQUIPMENT



The Daily News Building, Chicago



The Bee-News Building, Omaha, Nebr.



The Free Press Building, Detroit



The Press Building, Pittsburgh

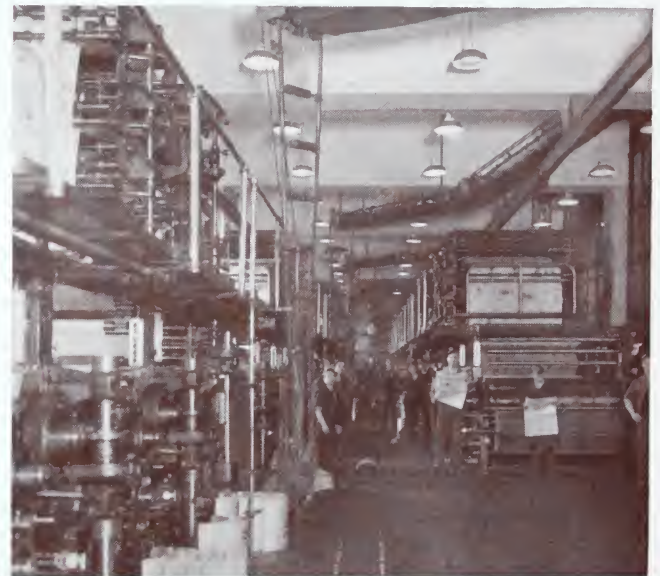
Electricity mingles with printer's ink in the spread of information

The homes of those huge presses that feed miles of paper through their roaring rolls so that the world's news may reach you while it is fresh must carry a full quota of electrical equipment. Printing today, whether it be the printing of a great newspaper or the production of a million catalogs, leans heavily on the aid which electricity gives. And no matter how large the newspaper . . . or how small . . . no matter what character of printing or publishing may be involved . . . Westinghouse can supply every class of electrical equipment to meet its requirements.

Motors and control for whole batteries of presses are an item for which some of the world's most famous printers and publishers have come to Westinghouse. Motors for pneumatic tube systems, for ventilating systems, for conveyors, compressors, elevators or pumps can all be of Westinghouse design and manufacture. Lighting installations and elevators also serve the needs of many a modern plant, and the various classes of equipment which apply electric power to the working requirements of the publishing business are assured an added reliability if they are served

by Westinghouse switchboards, panelboards, circuit-breakers and transformers.

Where uninterrupted service is of paramount importance it is extremely desirable to have a complete electrification under the undivided responsibility of a single organization. Such an electrification Westinghouse, through its organization, can supply.



Typical view of modern press room showing electrically driven presses and conveyors and illumination.



Main distribution switchboard, The Press, Pittsburgh



Motor-generators and automatic control panels for printing presses, The Press, Pittsburgh

REPRESENTATIVE HOMES AND APARTMENTS USING WESTINGHOUSE EQUIPMENT



A group of homes and small apartments in which adequate provision has been made for electric ranges, heaters, proper lighting, and other modern electrical conveniences

Homes and small apartments can have complete Westinghouse electrification

Every home or small apartment building today can have just as complete an electrification of as fine engineering and manufacturing quality as the tallest skyscraper or the huge hotel. Westinghouse through its organization supplies complete equipment for home electrifications, from MAZDA lamps to labor-saving appliances.

The builder who "builds to sell" finds an added sales feature in the fact that Westinghouse equipment is installed throughout. The owner of the small apartment finds Westinghouse lighting in

halls and corridors an advantage in making the right sort of impression on prospective tenants.

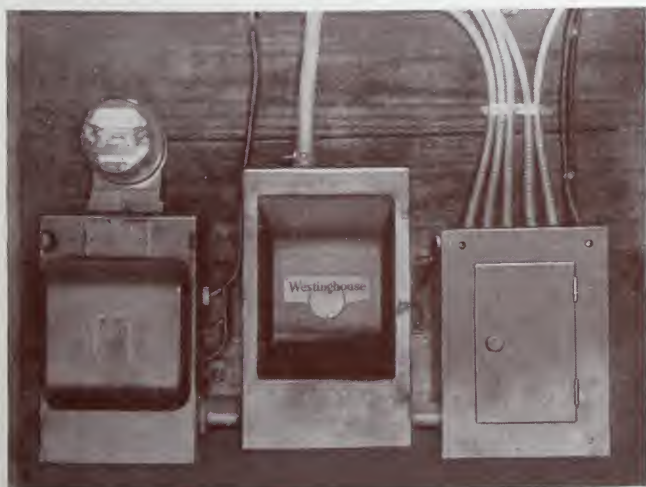
Among newer Westinghouse developments is the combined light and power panelboard which can be installed in kitchen or hallway to control both lighting and range circuits. The trend toward increased use of electricity makes it essential to provide for future needs in planning any modern dwelling. Westinghouse is keeping abreast of these requirements with new apparatus as needed.



Electrical range in kitchen of well-equipped home



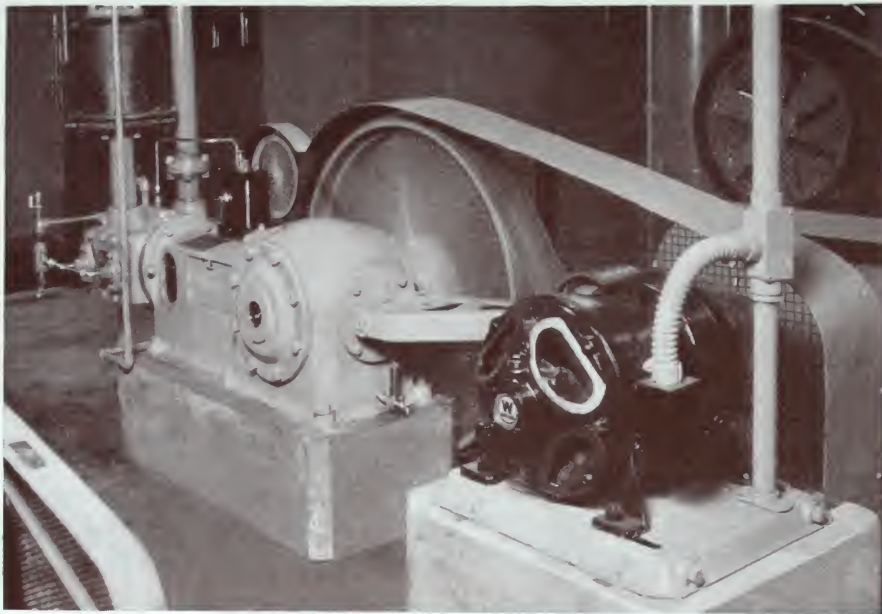
Solar Glow Heater in bathroom of an apartment



Meter entrance switch with watt-hour meter, range switch, and panelboard in modern dwelling



Typical Sollux lighting installation



*Linestart motor driving
compressor in the Cadillac
Building, Boston.*



*Variable voltage motor-
generator sets on elevator
installation in the Public
Service Building, Boston*



*Front view of main
switchboard in the
Chase National
Bank, New York*

Westinghouse offers a specialized service in every branch of electrification for buildings

Westinghouse has long recognized that the building industry calls for electrical application specialists in every branch of electrification for buildings—engineers who have a broad basic knowledge of good practice in architectural operation.

For years Westinghouse has worked hand-in-hand with architects throughout the country, not only in analyzing conditions and requirements, but in discovering new ways in which electrical apparatus could add to the appearance, safety, comfort, and efficiency of buildings.

As one part of this service Westinghouse maintains a Bureau of Illumination that makes an impartial survey of any lighting project. This Bureau consists of lighting specialists and experts in specification writing, who will cooperate with the architect or builder with the desire to parallel his purpose and procedure, and to simplify his problems.

The work of this Bureau is comprehensive in its scope, giving accurate specification data, installation information, and other details for the efficient and economical illumination of modern buildings.

In each of its district offices, Westinghouse has a staff of experts who are prepared to give reliable engineering service and counsel, and who are trained to interpret electrically the spirit of every type of building. Whether it is a question of elevators, ventilating and pumping equipment, panelboards, switchboards, or any other phase of operation, there are application engineers who are at the service of the architect and contractor at all times.

Back of this service, is a headquarters staff ready to place at your disposal the entire facilities of an organization whose name has become synonymous with electrical equipment in buildings.

Besides this personal contact with the architect, Westinghouse, at regular intervals, sends

out catalogues, specification aids and data, and other interesting literature that keeps him informed on the newest types of electrical apparatus.

ELEVATORS

Westinghouse engineers have contributed in a large measure to elevator design and performance.



They were first to develop Variable Voltage Control, from which came Automatic Inductor Control. With this system, any desired car speed is possible, acceleration and deceleration are smooth and swift, all stops are made at exact floor levels, and without the use of extra motors, brakes or auxiliary gearing.

The control of the car is automatic — good service does not depend upon the skill of the operator. The passenger calls the floor, the operator pushes the button, and the car rises without a trace of jerk or sudden pull and comes to a smooth stop exactly even with the called floor. There is no jockeying at landings, and faster operating schedules are maintained.

Although the control is automatic, every safety feature is embodied in the design, and the cars are always under the control of operators. Cars may be stopped, slowed down, or reversed at will. With no elaborate equipment, maintenance is kept at a minimum.

MOTORS FOR VENTILATING AND PUMPING

Perfect balance, smooth running, sturdy construction are inherent characteristics of Westinghouse motors. Sealed-sleeve bearings provide positive protection from worn bearings and oil-

soaked insulation. The oil stays where it belongs — in the sealed-sleeve bearings — and the insulation remains free from oil.



The sealed feature also keeps out dust, grit and other foreign materials that grind the life out of

the ordinary type of bearing.

Westinghouse manufactures a complete line of motors and control for both alternating and direct current power. The control for either type may be manual or automatic, each performing its duty with the same high efficiency.

PANELBOARDS AND BOXES

No details in construction have been overlooked in the new design of Westinghouse panelboards. The boxes are of small size, and yet there is ample room for the running of connecting wires. The entire line is attractive — wholly in harmony with the best surroundings.

Westinghouse panelboards have the approval of the National Board of Fire Underwriters. Full safety is provided in changing fuses. Unit type construction gives flexibility in application and the complete isolation of units adds to safety and dependability.

Adjustable corner irons and trim clamps are standard on all Westinghouse panelboards, allow-



ing easy adjustment of the trim even on boxes that are set too deep or which are out of plumb. All circuits are numbered with etched copper plates, and a directory is furnished for circuit listings.

Another important feature is the completeness of the line. For resi-

dences, stores and apartments — for general lighting applications, for industrial and heavy duty service — wherever

the architect finds need for a panelboard, there is a Westinghouse full-safety type designed especially for that particular need.

LIGHTING — INTERIOR AND EXTERIOR

Schools, libraries, hospitals, banks, stores, restaurants, hotels, office buildings — all these are served with light and beauty by Sollux, the aristocrat of lighting units. Hangers of various designs, all including the exclusive Sollux features, make this fixture available in a wide variety. The “tilt-out” cap makes it easy to change the lamp without fear of globe breakage.

The Sollaire and Sollite are other Westinghouse units that are gaining prominence in buildings. The most noteworthy improvement in all lighting units is the introduction of completely wired fixtures. With this feature, installation costs are less, and wiring that meets with the underwriters’ regulations and gives safety, freedom from fire hazard and long life is assured.



Westinghouse designs, makes and installs flood-lighting and ornamental lighting equipment in cooperation with building owners, architects and contractors. Recognizing the advertising value of light, Westinghouse has developed a complete line of equipment combining beauty of appearance with efficiency in the proper distribution of light.

SWITCHBOARDS

Westinghouse engineers have developed several types of switchboards, each type suited to particular applications. There is a complete line available for controlling the lighting of office buildings, hotels, theaters, of school, college and university auditoriums, of churches, lodges — even stadiums.

Westinghouse switchboards are attractive in appearance. Because of their compact construction they require minimum amount of floor space. The boards are completely assembled in the fac-

tory with all connection points for the building wiring brought out at a convenient place for making final connections. The parts are simple and sturdy, making the equipment strong and



durable. All parts are accessible for easy and quick inspection.

Anoteworthy development in switchboards for stage presenta-

tions is the Multi-Pre-Set switchboard which is exclusively Westinghouse. This board gives a remarkable flexibility of control. The most difficult lighting effects can be handled with speed and precision. Circuits are provided so that it is not necessary to set up a lot of auxiliary control apparatus to take care of trick lighting effects.

All lighting effects for the entire performance are set up in advance during a rehearsal, and during the performance the operator can devote his entire attention to the manipulation of the circuit dimmers. Scene lightings are changed by the operation of a single switch.

For vaudeville theaters, Westinghouse has perfected two types of boards, the Pre-Selective and the Two-Scene Pre-Set. Both types make it possible for the operator to set up the lighting for the ensuing act while one act is in progress. Both boards are compactly built so that it is easy to reach all the controls.

CIRCUIT-BREAKERS

Like many other elements that go into modern buildings, the selection of circuit-breakers deserves the serious consideration of architects and builders.

For years Westinghouse has designed and manufactured circuit-breakers for every applica-



tion. Simplicity is the keynote of this equipment, because simplicity implies the twin advantages of accessibility and sturdiness. The simple constructions have

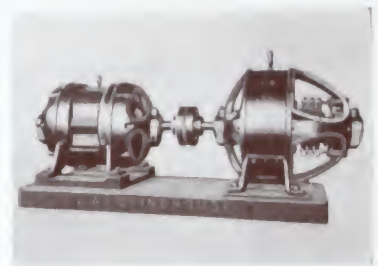
been obtained through the elimination of all unsightly rods and levers, and the reduction of framework to the minimum consistent with strength.

In addition to balanced design, permanence of appearance is assured by treating all exposed copper parts with a satin finish. This finish retains its luster without polishing.

EQUIPMENT FOR MOTION PICTURE PROJECTION

Westinghouse has served the motion picture industry since its infancy, and in corners of America's finest theaters are Westinghouse motor-

generators supplying steady, full white light. This equipment assures a source of direct current that makes for the uninterrupted presentation of pictures. Flickers, stops and other annoying elements are eliminated. Westinghouse



sets are supplied with all accessories, including starters, control panels and ballast rheostats.

ELECTRIC COOKING

Westinghouse manufactures electric cooking equipment designed for heavy duty and hard usage, and which has the capacity and flexibility required for kitchens where cooking is continuous. This equipment includes the sectional bake oven, meat roasting oven, hotel range, hotel broiler, coffee urns, and other products.

Architects and contractors will find that by specifying Westinghouse electric ranges in apartments and homes they are not only providing the most modern and convenient development in kitchen equipment, but are making possible a saving in building costs. The electric range requires no flues or chimneys. This is an important item in large buildings, as it adds to the space

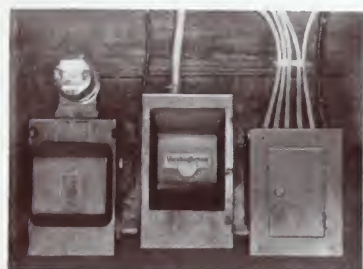


available for tenants, and makes possible a large saving in materials and construction.

The electric range is economical. The insulated oven conserves heat and operates partially as a fireless cooker. Westinghouse electric ranges have the "Flavor Zone" oven which applies the principle of the old-fashioned Dutch oven to modern cooking and brings out all the finest flavors in the food. In actual fuel costs, the electric range compares favorably with ranges of other types. In almost every case the electric service companies set a low rate for users.

SAFETY SWITCHES

From the time electricity is brought to the construction job, and on through the entire life of the building, safety switches have a duty to perform. Most building codes require them; the convenience and protection they provide in the elec-



trification of the building make them desirable.

For domestic, commercial and industrial uses there are Westinghouse safety switches adapted to the requirements of varying applications. Whether it be the meter service switch in the home, the main entrance switch in the apartment or commercial building, switches for controlling motors on heating and ventilating equipment or switches for use with the great motors in industrial plants, there is a Westinghouse safety switch for the job.

POWER PLANT EQUIPMENT

From the earliest days of the electrical industry Westinghouse has been a leader in the manufacture of power plant equipment. In this book the main consideration has been given to the specific electrical apparatus applied in buildings; but where generating or substation equipment is required for the power supply, Westinghouse furnishes apparatus for large or small power plants. This equipment includes stokers, turbines, generators, condensers and auxiliaries, air ejectors, and other apparatus necessary in modern plants.

Westinghouse Electrification Equipment for Buildings

Arc Welders	Motor-Generators
Capacitors	Motors and Control
Circuit-breakers	(for driving ventilating, pumping, compressor equipment or for any specialized application)
Converters	Panelboards and Boxes
Cooking Equipment	Radiant Heaters
Disconnecting Switches	Rectifiers
Elevators	Relays
Fans	Safety Switches
Floodlighting Equipment	Small Light and Power Plants
Fuses	Steam Condensers
Generators	Stokers
Induction Regulators	Switchboards and Fittings
Insulating Material	Theater Switchboards
Instruments	Transformers
Knife Switches	Turbine-Generators
Lighting Fixtures (Interior and Exterior)	Watt-hour Meters
Lightning Arresters	
MAZDA Lamps	

*The Sign of a
Westinghouse Dealer*



A Complete Electrical Service

Westinghouse, in conjunction with its jobbers and electrification dealers, can supply anything electrical for any type of building.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

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 FAIRMONT, W. VA., 602 Cleveland Ave.
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 JOHNSTOWN, PA., 47 Messenger St.
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 LOS ANGELES, CALIF., 420 S. San Pedro St.
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